

REMARKS

Claims 1-5 and 7-9 are pending in the application. In the Office action dated December 21, 2007 claims 1-5 and 7-9 were rejected. Responsive to the Office action, Applicants have amended claims 1 and 3. In view of the amendments above, and the remarks below, Applicants respectfully request reconsideration of the application under 37 C.F.R. § 1.111.

Claim Rejections under 35 U.S.C. § 112

Claim 3 is rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Specifically, the Examiner asserts that in claim 3, the phrase "the fixing of the springs (18, 19)" is unclear. Applicants respectfully disagree.

However, in the interest of furthering the prosecution of the application, Applicants have amended claim 3 to recite a mobile joint having a spring that is adjustable by adjusting the distance from the axis of rotation of the shaft to the connection of the springs to the first joint element. Support for the amendment is found in the specification at page 6, line 28 to page 7, line 2; at page 8, lines 5-14; and at Figure 3.

In view of the above amendment, and in particular given the description in the specification, Applicants respectfully suggest that the subject matter of claim 3 is defined both distinctly and with particularity. Applicants therefore respectfully request the withdrawal of the rejection of claim 3 under 35 U.S.C. § 112, second paragraph.

Rejections under 35 USC § 103

Claims 1-3 and 7-9, as best understood, are rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent No. 2,799,323 to Berg in view of U.S. Patent No. 2,818,911 to Syak.

Specifically, the Examiner asserts that Berg discloses a mobile joint basically the same as the Applicant's claimed joint, except that the first and second springs are not specified to be plate springs, and no dimensions of the mobile joint are specified. As Syak discloses a joint having a plate spring abutting first and second elements, the Examiner suggests that it would have been obvious to one of ordinary skill in the art to substitute one spring type for the other.

Applicants respectfully disagree. However, the Applicants take this opportunity to amend claim 1 to more particularly define their invention. Claim 1 has been amended to recite a mobile joint wherein the second joint element is allowed to tilt forwards until the first plate spring abuts the blocking element, and allowed to tilt backwards until the second plate spring abuts the blocking element. Support for the amendment is found generally in the specification as filed, but more particularly at page 7, lines 3-25 in view of the disclosure at page 5, lines 8-19.

The seat of Berg includes a base and a pair of complementary seat elements 17R and 17L that are disposed side by side in a laterally spaced relationship above the base. The seat elements of Berg are each mounted to the base via two orthogonal rods 20 and 24, which permit each seat element to be independently tilted in any direction.

The movement of each seat element is resisted by four coil springs 31 which are disposed between the base and the seat element. Each coil spring is normally "slightly compressed", and by tilting a seat element, one or more springs may be further compressed, resisting the depression of the seat element.

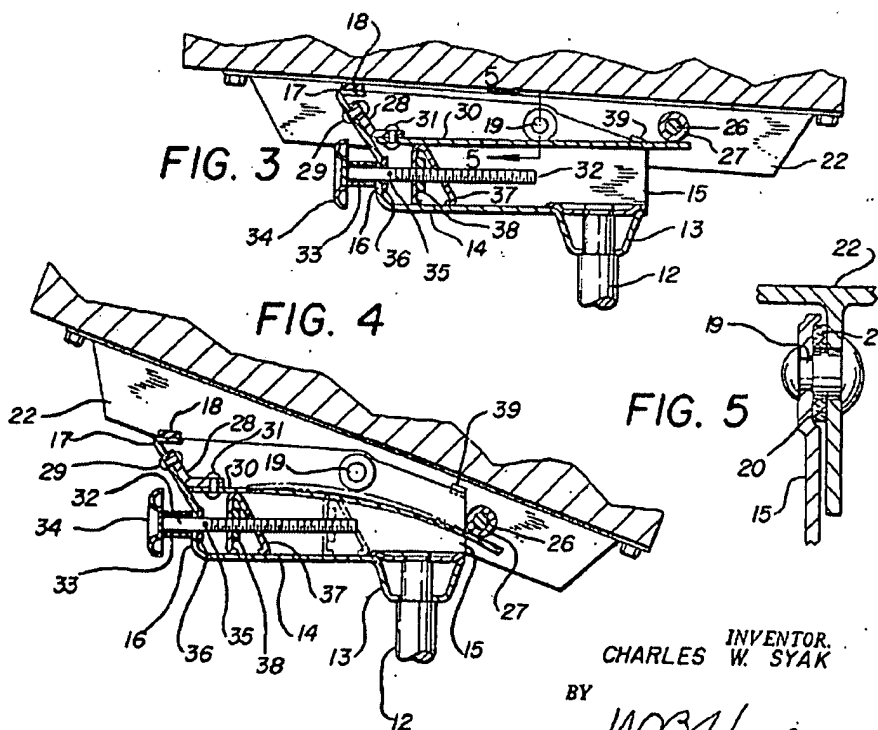
The Examiner asserts that Berg discloses "a mobile joint that is basically the same as that recited in claims 1-3 and 7-9 ... except that the first and second spring are not specified as plate springs and no dimensions of the mobile joint are specified." Applicants respectfully disagree.

The joint in the seat of Berg is distinct from the mobile joint recited in claim 1, as

amended, for at least the reasons that the coil springs of Berg do not function in the same capacity as the plate springs of the claimed mobile joint, and are in fact incapable of functioning in the same capacity as the plate springs of the claimed mobile joint.

The coil springs of Berg are pretensioned against the lower surface of the seat element, and although they may be compressed further, they are not disposed in a "glidingly abutting" relationship with the seat element. Furthermore, the coil springs of Berg fail to abut any blocking element in order to limit the movement of the seat element when tilted either forwards or backwards.

The Syak reference discloses an office chair which may be tilted backwards against the tension of a leaf spring 30. As shown below, the seat portion of the Syak chair rests on the leaf spring via roller 27, so that when the seat portion pivots at pivot member 19, the end of leaf spring 30 moves in an arc, the length of which is determined by the position of fulcrum 37, which is adjustable.



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However, the leaf spring of Syak does not perform the function of the plate spring of the recited mobile joint. In particular, no matter how the seat portion of Syak is tilted it cannot *come into contact* with a blocking element, because the seat portion of Syak is *constantly* in contact with leaf spring 30. Furthermore, the Syak chair is not capable of being tilted forward against a second spring member, for at least the reasons that the chair does not feature a second spring member, and because the chair is mechanically incapable of tilting forward. In particular, the seat portion is prevented from tilting forward by stop pad 18.

In order for the recited mobile joint to be rendered *prima facie* obvious, the cited references must disclose each and every element of the claim. Applicants suggest that even in combination, the Berg and Syak references fail to disclose any mechanism corresponding to a first and second parallel plate spring, where the first and second plate springs are configured to interact with a blocking element to limit the forward and backwards tilting of a seat.

Again, the Examiner suggests that it would have been obvious to substitute a plate spring for the coil springs of Berg. However, there can be no suggestion to substitute a plate spring in the seat of Berg because the two types of springs are not mechanically interchangeable, and they fulfill distinctly different functions in their respective chairs. Furthermore, even if the coil springs of Berg were replaced by the leaf spring of Syak, the resulting chair would still not feature a pair of parallel plate springs as set out in claim 1.

The claimed mobile joint utilizes two plate springs, mounted in a parallel relationship, to gently and resiliently limit the forward and backwards tilt of a sitting device through a particular mechanical relationship between a blocking element and the first and second plate springs. The differences between the disclosures of the cited references and the claimed mobile joint are far more substantial than the substitution of one type of spring for another. The mechanical

relationship recited in claim 1 is neither disclosed or suggested in either of the cited references.

Furthermore, in order to arrive at the recited mobile joint, one of ordinary skill would have to change both the type and number of springs disclosed by Berg, and change the number of springs and the function of the springs of Syak. Applicants respectfully suggest that the Examiner has failed to identify a sufficient teaching to motivate a skilled artisan to so substantially alter the mechanisms of the cited references and to arrive at the advantageous parallel plate spring design of the mobile joint of claim 1.

For at least these reasons, the Applicants respectfully suggest that the Examiner has failed to establish the *prima facie* obviousness of the joint of claim 1. As claims 2-3 and 7-9 depend from claim 1, Applicants suggest they are similarly not rendered obvious by the cited references. Applicants therefore request the withdrawal of the rejection of claims 1-3 and 7-9 under 35 U.S.C. § 103.

Claims 4 and 5 are rejected under 35 USC § 103(a) as being unpatentable over Berg in view of Syak as applied to claims 1 and 7-9 above, and further in view of U.S. Patent No. 5,775,774 to Okano.

The Examiner asserts that it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the mobile joint of Berg such that the springs are made of fiberglass and reinforced by carbon. Applicants respectfully disagree.

The Okano reference discloses a chair configured to lean backwards against the tension of a single spring link 44. The spring link 44 is securely connected at both ends, and is not disposed in a "glidingly abutting" relationship with any element of the Okano chair. Furthermore, the spring link of Okano fails to contact any blocking elements to limit the movement of the seat element when tilted either forwards or backwards.

As discussed above, Applicants respectfully suggest that even in combination, the Berg and Syak references fail to establish the *prima facie* obviousness of the mobile joint of claim 1. As claims 4 and 5 depend from claim 1, Applicants suggest that they are similarly not rendered obvious by Berg and Syak. Even when combined with the Okano reference, Applicants suggest that the cited references fail to disclose any mechanism corresponding to a first and second parallel plate spring, where the first and second plate springs are configured to interact with a blocking element to limit the forward and backwards tilting of a sitting device, as recited in pending claim 1.

Applicants suggest that it would be particularly inappropriate to combine the Okano reference with the Berg reference, as the spring link 44 is not capable of performing the function of the coiled springs of Berg.

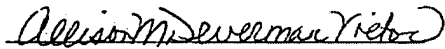
As discussed above, one of ordinary skill would have to change both the type and number of springs disclosed by Berg, and change the number of springs and the function of the springs of Syak and Okama in order to arrive at the claimed mobile joint. Applicants respectfully suggest that the Examiner has failed to identify a sufficient teaching to motivate a skilled artisan to so substantially alter the mechanisms of the cited references and to arrive at the advantageous parallel plate spring design of the mobile joint of claim 1.

For at least these reasons, the Applicants respectfully suggest that the Examiner has failed to establish the *prima facie* obviousness of the joint of claims 4 and 5. Applicants therefore request the withdrawal of the rejection of claims 4-5 under 35 U.S.C. § 103.

Applicant believes that this application is now in condition for allowance, in view of the above amendments and remarks. Accordingly, applicants respectfully request that the Examiner issue a Notice of Allowability covering the pending claims. If the Examiner has any questions, or if a telephone interview would in any way advance prosecution of the application, please contact the undersigned agent of record.

CERTIFICATE OF E-FILING

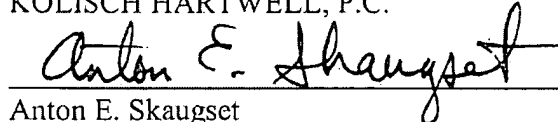
I hereby certify that this correspondence is being transmitted electronically via the United States Patent and Trademark Office's EFS-Web System on March 21, 2008.



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